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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,510	01/11/2001	Eiji Nakatani	YMOR:184	4029

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EXAMINER	
CHAU, COREY P	
ART UNIT	**PAPER NUMBER**
2644	9

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/743,510	NAKATANI, EIJI	
	Examiner	Art Unit	
	Corey P Chau	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) *2 and 8* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of embodiment 1 (fig. 2) in the reply filed on 06/02/04 is acknowledged. The traversal is on the ground(s) that all of embodiments 1 and 2 are sufficiently related that a thorough and complete search for embodiment 1 should encompass a thorough and complete search for embodiment 2. This is not found persuasive because search for embodiment one does not encompass a thorough and complete search for embodiment 2 because the characteristics of the band-pass circuit of embodiment two operates to attenuate the midrange during band-pass on state and the controlling section of embodiment two operates differently than the controlling section in embodiment one, which requires a different search to have the band-pass circuit attenuate the midrange during band-pass on state and the controlling section having a different output than the controlling section of embodiment 1.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 2 and 8 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on. Claim 8 depends on Claim 2, therefore does not belong with embodiment 1.

3. This application contains claims 2 and 8 drawn to an invention nonelected with traverse in the reply filed on 06/02/04. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of U.S. Patent No. 4024344 to Dolby, and in further view of U.S. Patent No. 5610985 to Ten Kate.

Regarding Claim 1, Applicant's admitted prior art discloses an audio signal controller (Fig. 6) for inputting and outputting a two-channel audio signal comprising a surround effect circuit for switching on and off and outputting a surround effect of an inputted two-channel signal (Fig. 6; page 1, lines 16-18); and a controlling section (3) for turning on and off the surround effect. Applicant's admitted prior art discloses the matrix surround circuit, when effect sounds are expanded while a movie with battle scenes is being viewed, the volume of speeches may diminish relatively to make them difficult to hear or sound images of speeches may be localized at a deeper positions of corresponding video images (page 2, lines 12-16). In addition, sound in a movie theater tends to have many harmonic components and do not have a sound quality suitable for reproducing music. Thus, disadvantageously, home compound equipment capable of reproducing both music and movies cannot reproduce the atmosphere in a movie theater (page 2, lines 29-33). Therefore it would have been obvious to one having ordinary skill in the art

at the time the invention was made to provide a system to allow the stereo audio equipment to reproducing both music and movies with optimal sound quality in either the reproduction of music or movies and to provide a system wherein the reproduction of the movie will not relatively diminish the volume of speeches which makes it difficult to hear or localized sound images of speeches at a deeper positions of a corresponding video images, as taught by Dolby. Dolby discloses a center channel derivation for stereophonic cinema sound (Fig. 3) comprising left and right channel signals (20,21); and band-pass circuits (28,29,30,31) each defining a corresponding channel for switching (i.e. control circuit) a midrange of an audio signal frequency band having such a two-channel audio signal in order to harden the center image, particularly in speech (abstract; Fig. 3). The left and right channel signals are compared and, when they include significant amounts of correlated information, the relative gain of the center channel is enhanced by boosting the gain of that channel and/or cutting the gain of the left and right channels (i.e. band-pass on state having a frequency characteristic for providing an output at a higher gain than a bass range and a treble range), when there are no significant amounts of correlated information, all channel gains are unmodified (i.e. band-pass off state having a flat frequency characteristic between the bass range and the treble range) (abstract; column 2, lines 10-60). Dolby discloses three output channels (24,27,28), Ten Kate discloses if two outputs channel are provided (i.e. Applicant's admitted prior art, 10L and 10 R) then combine the received speech/center combination signal (i.e. C out), the left/center (i.e. L out), and right/center (i.e. R out) combination signals into left/center/speech and right/center/speech signals respectively

for reproduction through the left and right speaker units (10L and 10R)(column 5, lines 54-61). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Applicant's admitted prior art with the teaching of Dolby and Ten Kate to incorporate band-pass circuits each defining a corresponding channel for switch a midrange of an audio signal frequency band having such a two-channel audio signal in order to harden the center image, particularly in speech, wherein the control circuit is incorporated into the controlling section of Applicant's admitted prior art to compare the left and right channel signals and to combine the received C out, the L out, and the R out combination signals into left/center/speech and right/center/speech signals respectively for reproduction through the left and right speaker units, wherein the signal from the left/center/speech and right/center/speech are coupled to the surround effect circuit. It would have been obvious to one having ordinary skill in the art that the controlling section would simultaneously cause the surround effect circuit and the band-pass circuit to switch on in order for the surround effect circuit to expand the sound (i.e. surround effect circuit is on) without the volume of speeches diminishing relatively to make them difficult to hear or sound images of speeches may be localized at a deeper positions of corresponding video images, since band-pass circuits each defining a corresponding channel hardens the center image, particularly in speech. It would have been obvious to one having ordinary skill in the art that the controlling section would simultaneously cause the surround effect circuit and the band-pass circuit to switch off in order for the stereo

audio equipment to reproducing both music and movies with optimal sound quality in either the reproduction of music or movies.

6. Regarding Claim 3, Applicant's admitted prior art as modified discloses the midrange of the audio signal frequency band is a band between 400 Hz and 7kHz (i.e. Dolby discloses a band 200 Hz – 2.5k Hz. Dolby also discloses a further refinement restrict the frequency range operated upon by the control means, i.e., the frequency range in which relative gains are varied, only to that which is important for localizing speech sounds. By the use of appropriate filters in the signal paths, the extreme bass frequencies can be excluded from the action (e.g. below 150 Hz) as well as the extreme high frequencies (e.g. above 8kHz))(column 2, lines 1-9).

7. Claims 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of U.S. Patent No. 4024344 to Dolby as applied to claims 1 and 3 above, and further in view of U.S. Patent No. 5610985 to Ten Kate and U.S. Patent No. 5987417.

8. Regarding Claim 4, Applicant's admitted prior art as modified discloses an audio controller for providing a surround sound effect while maintaining optimal quality of speeches for reproducing movies and also capable of reproducing music on the system. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the audio controller with any known devices that needs to reproduce audio signal, so that a surround sound effect is provided while maintaining optimal quality of speeches for reproducing movies and also capable of reproducing

music on the system. Therefore it would have been obvious to seek known devices that need to produce audio signal, such as that of Heo. Heo discloses a DVD reproducing device that can reproduce high sound quality of audio data with multiple channels (column 11, lines 48-64). Heo's invention provide a device and method for discriminating a DVD video (i.e. audio data recorded thereon with video data) or audio disk, and reproducing it according to the discrimination result (i.e. disc determining means for determining whether a disc used as a recording medium is a DVD or another disc) (Fig. 20; column 12, lines 12-15); a device and method for reproducing a DVD audio disk recorded in a linear PCM mode; and a device and method for reproducing a DVD audio disk which stores the compressed audio data (i.e. determining means for determining the type of the extracted multichannel audio data) (Figs, 16, 17, 18, 19, 20, and 21; column 21, lines 14-65; column 22, lines 17-65). The DVD audio disk reproducing device analyzes the audio data reproduced from the disk to thereby generate an audio control signal containing an audio coding mode and a decoder decodes the audio data received after being selected according to the audio coding mode of the audio data. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the audio controller of Applicant's admitted prior art as modified with the teaching of Heo to utilize the audio controller with the DVD reproducing device of Heo, so that a surround sound effect is provided while maintaining optimal quality of speeches for reproducing movies and also capable of reproducing music on the system.

9. All elements of Claim 5 are comprehended by Claim 4. Claim 5 is rejected for the reasons stated above apropos of Claim 4.

10. All elements of Claim 6 are comprehended by Claim 4. Claim 6 is rejected for the reasons stated above apropos of Claim 4. The audio decoder of Heo has decoding devices respectively corresponding to a linear PCM, MPEG, AC-3 and compressive coding modes (Fig. 21;column 22, lines 55-57).

11. All elements of Claim 7 are comprehended by Claim 4. Claim 7 is rejected for the reasons stated above apropos of Claim 4. The digital audio formatter of Heo formats the decoded audio data in accordance with the transmission format between the digital appliances (i.e. Hirasawa audio reproducing apparatus), and then outputs the formatted data in sync with the control signal output from the timing controller (i.e. extracting multichannel audio data from the recording medium and down mixing) (Heo Figs, 16, 17, 18, 19, 20, and 21; column 21, lines 14-65; column 22, lines 17-65).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P Chau whose telephone number is (703)305-0683. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 23, 2004

FORESTER W. ISEN
SUPERVISORY PATENT EXAMINER